

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 11-K

☒ ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2005

or

☐ TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number: 1-9894

A. Full title of the plan and address of the plan, if different from that of the issuer named below:

ALLIANT ENERGY CORPORATION 401(k) SAVINGS PLAN

B. Name of issuer of the securities held pursuant to the plan and the address of its principal
executive office:

ALLIANT ENERGY CORPORATION
4902 North Biltmore Lane
Madison, Wisconsin 53718

REQUIRED INFORMATION

The following financial statements and schedules of the Alliant Energy Corporation 401(k) Savings Plan, prepared in accordance with the financial reporting requirements of the Employee Retirement Income Security Act of 1974, as amended, are filed herewith.

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FINANCIAL STATEMENTS AS OF DECEMBER 31, 2005 AND 2004

AND FOR THE YEAR ENDED DECEMBER 31, 2005,

SUPPLEMENTAL SCHEDULES FOR THE YEAR ENDED DECEMBER 31, 2005, AND

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

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Report of Independent Registered Public Accounting Firm

To the Total Compensation Committee and Participants of the Alliant Energy Corporation 401(k) Savings Plan:

We have audited the accompanying statements of net assets available for benefits of Alliant Energy Corporation 401(k) Savings Plan (the "Plan") as of December 31, 2005 and 2004, and the related statement of changes in net assets available for benefits for the year ended December 31, 2005. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2005 and 2004, and the changes in net assets available for benefits for the year ended December 31, 2005 in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedules of (1) assets (held at end of year) as of December 31, 2005, (2) assets (acquired and disposed of within year) for the year ended December 31, 2005, and (3) reportable transactions for the year ended December 31, 2005, are presented for the purpose of additional analysis and are not a required part of the basic financial statements, but are supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. These schedules are the responsibility of the Plan's management. Such schedules have been subjected to the auditing procedures applied in our audit of the basic 2005 financial statements and, in our opinion, are fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole.

/s/ Deloitte & Touche LLP

Milwaukee, Wisconsin
June 28, 2006

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	December 31,	
	<u>2005</u>	<u>2004</u>
Investment income receivable	\$1,916,893	\$660,002
Contributions receivable	<u>1,256,949</u>	<u>374,368</u>
Total receivables	<u>3,173,842</u>	<u>1,034,370</u>
Investments, other than participant promissory notes (Refer to Notes 7 and 8)	487,229,569	453,499,612
Participant promissory notes	<u>8,837,772</u>	<u>8,742,835</u>
Total investments	<u>496,067,341</u>	<u>462,242,447</u>
Net assets available for benefits	<u>\$499,241,183</u>	<u>\$463,276,817</u>

The accompanying Notes to Financial Statements are an integral part of these statements.

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

For the Year Ended December 31, 2005

Net assets available for benefits - beginning of year	\$463,276,817
Contributions:	
Cash contributions from employees	26,344,221
Employer contributions:	
Cash for purchase of Alliant Energy Corporation common stock	7,682,202
Cash	347,587
Rollovers from other qualified plans	507,360
Investment income:	
Net appreciation in fair value of investments (Refer to Note 7)	17,319,924
Interest and dividends	16,027,496
Distributions to participants	<u>(32,264,424)</u>
Net assets available for benefits - end of year	<u><u>\$499,241,183</u></u>

The accompanying Notes to Financial Statements are an integral part of this statement.

**ALLIANT ENERGY CORPORATION
401(k) SAVINGS PLAN**

**NOTES TO FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2005**

Note 1. Description of the Plan

The Alliant Energy Corporation 401(k) Savings Plan (the Plan) is a qualified defined contribution plan under Section 401(k) of the Internal Revenue Code (the Code), as amended, and meets the applicable requirements of the Employee Retirement Income Security Act of 1974, as amended (ERISA). The following brief description of the Plan is provided for general information purposes only. More complete information regarding the Plan is provided in the plan document and summary plan description, which have been made available to all eligible Plan participants (participants). The Plan is administered by the Total Compensation Committee (the Committee) and the Plan sponsor is Alliant Energy Corporate Services, Inc. (a direct subsidiary of Alliant Energy Corporation). The Committee reserves the right to terminate, amend or modify the Plan if future conditions warrant such action.

Any regular employee of Alliant Energy Corporation and its participating subsidiaries (the Company) age 18 and over may participate in the Plan. Regular full-time employees and regular part-time employees customarily scheduled to work at least half-time may participate immediately following 30 days of service. Part-time employees customarily scheduled to work less than half-time may participate after 12 months of service during which he or she has earned at least 1,000 paid hours.

An Employee Stock Ownership Plan (ESOP) is in place within the Plan. Under these provisions, participants have the option to elect to receive cash for any dividends paid on Company common stock within the Plan or to have the dividends reinvested in additional shares based on the current market price. Also, the Company is eligible for the dividend deduction provisions of Section 404(k) of the Code for Company common stock held in the ESOP.

The Company provides matching contributions for amounts contributed by participants to the Plan. Other than the exceptions noted below, Company match information and employee contribution limits for 2005 were as follows:

Company match for each \$1 contributed	\$0.50
Maximum amount of Company match as a percentage of each respective participant's eligible compensation	3%
Eligible employee annual contribution limit as a percentage of compensation	50%
Maximum annual contribution limit*	\$14,000

*Participants who were at least age 50 by Dec. 31, 2005 were eligible to make additional catch-up contributions of up to \$4,000 in 2005. These additional catch-up contributions were not eligible for any Company match.

Company contributions for Alliant Energy Resources, Inc. (Resources) and Cedar Rapids and Iowa City Railway Company (CRANDIC) employees are calculated based on a percentage of base pay, without overtime or incentive pay, and there is a "basic" Company contribution equal to 4% and 2%, respectively, of base pay.

Resources and CRANDIC employees may be eligible for a "discretionary" Company contribution of \$0.50 for every \$1 contributed up to a maximum of the first 6% of pay in addition to the "basic" Company contribution. The "discretionary" contribution for both Resources and CRANDIC employees is based on achieving specified goals and is typically determined and paid during the first quarter of the following year. The "discretionary" Company contributions for 2005 and 2004 were \$198,808 and \$374,368, respectively.

An "additional" Company contribution is allocated to the accounts of active participants, except for Resources and CRANDIC employees, as of the last day of the Plan year, who contributed at least 6% of compensation during the Plan year and did not receive a Company matching contribution equal to 3% of compensation. The amount of the

“additional” Company contribution is the difference between 3% of compensation during the Plan year and the amount of Company matching contributions previously received during the Plan year.

Beginning Jan. 1, 2006, the Company began making changes to the Plan for newly hired non-bargaining employees and all Resources and CRANDIC employees. For all other non-bargaining employees, the following changes will go into effect on Aug. 1, 2008. The changes include the Company matching \$0.50 for each \$1 contributed up to the first 8% of each respective participant’s eligible compensation. In addition, the Company provides a “cash contribution” into each active employees’ 401(k) account each pay period based on a percentage of base pay as follows:

<u>Age plus Years of Service</u>	<u>Company Cash Contribution</u>
≤ 49	4%
50 - 69	5%
70+	6%

Company contributions are invested in the Alliant Energy Corporation Common Stock Fund, except for Company “basic” contributions for Resources and CRANDIC employees and beginning Jan. 1, 2006, the “cash contribution” for newly hired non-bargaining employees and all Resources and CRANDIC employees. These exceptions are invested at each participant’s discretion.

Participants are immediately vested in their respective employee and employer contributions.

Contributions under the Plan are held and invested, until distribution, in a Trust Fund maintained by Ameriprise Trust Company (the Trustee), formerly known as (f/k/a) American Express Trust Company, a division of Ameriprise Financial Services, Inc.

Participants may subsequently redesignate the distribution of future contributions or transfer existing balances between investment funds on a daily basis, subject to the limits set forth in the Plan. As previously described, Company matching contributions invested in the Alliant Energy Corporation Company Stock Fund may not be transferred to any other investment fund. However, Company matching contributions may be transferred by certain participants during the 30-day period immediately prior to retirement and participants age 55 with 10 years of service are eligible to diversify up to 100% of their ESOP account to one or more of the investment options.

The Plan has provisions under which participants who are active employees may take loans up to the lesser of \$50,000 or 50% of their total account balance (a \$1,000 minimum loan amount and a maximum of three loans for each participant also apply). The Committee determines the loan interest rate pursuant to the Plan. Interest rates on participant loans ranged from 5.0% to 10.5% at both Dec. 31, 2005 and 2004. Principal and interest are repaid bi-weekly through employee payroll deductions.

Note 2. Summary of Significant Accounting Policies

(a) Basis of Accounting - The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP).

(b) Valuation of Investments and Income Recognition - All Guaranteed Investment Contracts (GIC’s) held by the Plan are fully benefit responsive and are valued at contract value, which represents contributions made under the contract, plus interest at the contract rate (less funds used to pay Plan benefits). The carrying value of all GIC investments was \$38,204,962 and \$35,339,962 at Dec. 31, 2005 and 2004, respectively. The approximate fair value of these investments was \$46,887,620 and \$43,639,028 at Dec. 31, 2005 and 2004, respectively, based on the discounted cash flows valuation method. Under the terms of the GIC’s, the weighted average crediting interest rate was 4.33% and 5.00% on Dec. 31, 2005 and 2004, respectively, and is reset quarterly for all contracts. The GIC’s earned an average rate of 4.86% and 4.80% in 2005 and 2004, respectively. Participant loans are carried at unpaid principal balances due. All other Plan investments are carried at fair value as determined by quoted market prices,

except for the RiverSource Trust Income Fund I, f/k/a American Express Trust Income Fund I. The RiverSource Trust Income Fund I is a common collective trust fund, which includes investments in fully benefit responsive GIC's and is reported at contract value, which approximates fair value. Interest income is accrued when earned. Dividend income is recorded on the ex-dividend date. Investment transactions are recorded on the trade date.

(c) Net Appreciation in Fair Value of Investments - Net realized and unrealized appreciation is recorded in the accompanying statement of changes in net assets available for benefits as "Net appreciation in fair value of investments."

(d) Payment of Benefits - Benefit payments to participants are recorded when paid.

(e) Expenses - Investment management fees are paid from investment earnings prior to crediting earnings to the individual participant account balances. Most other Plan administrative expenses are absorbed by the Company. Expenses incurred in maintaining Self-Managed Brokerage Accounts are the responsibility of the respective Plan participants.

(f) Use of Estimates - The preparation of financial statements in conformity with GAAP requires the Plan administrator to make estimates and assumptions that affect the reported amounts of net assets available for benefits at the date of the financial statements and the reported amounts of changes in net assets available for benefits during the reporting period. Actual results could differ from those estimates.

(g) Risk and Uncertainties - The Plan invests in various investments, including common investment funds, mutual funds, common stock of the Company and investment contracts. The Plan also offers a Self-Managed Brokerage Account option which allows participants to invest in a wide range of mutual funds. Investments, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investments, it is reasonably possible that changes in the values of certain investments will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

(h) Reclassifications - Certain prior period amounts have been reclassified on a basis consistent with the current year presentation.

Note 3. Tax Status

The Internal Revenue Service has determined and informed the Company by a letter dated Aug. 25, 2003, that the Plan and related trust are designed in accordance with the applicable sections of the Code. The Plan has been amended since receiving the determination letter. However, the Committee and the Plan's tax counsel believe that the Plan is designed and is currently being operated in compliance with the applicable requirement of the Code.

Note 4. Plan Termination Provisions

Upon termination of the Plan in its entirety, each participant is entitled to receive, in accordance with the terms of the Plan, the entire balance in their account. The Company has no intention to terminate the Plan.

Note 5. Withdrawals and Distributions

Withdrawals from participants' account balances are allowed when participants who are actively employed reach age 70-1/2 (or age 59-1/2 for certain participants). Withdrawals are also allowed due to special "hardship" circumstances. Distributions from the Plan will be made upon termination of employment (by retirement, death, disability or otherwise) if the participant's account balance is less than \$5,000. If a withdrawing participant's account balance exceeds \$1,000 but is less than \$5,000, and the participant does not make an election to either have the account paid as a direct rollover or as a cash payment, the distribution will be paid as a direct rollover to an individual retirement account established at the Trustee. If a withdrawing participant's account balance exceeds \$5,000, the participant may elect to defer payment until he or she is age 70-1/2. Distributions can be either in the form of a lump sum or substantially equal annual installments. The unpaid portion of all loans made to the participant, including accrued interest, will be deducted from the amount of the participant account to be distributed. Distributions payable to participants at Dec. 31, 2005 and 2004 were \$59,982 and \$25,656, respectively. Distributions payable are not included within net assets available for benefits in the accompanying financial statements, however, they are recorded as liabilities in the Plan's Form 5500 (refer to Note 10).

Note 6. Derivative Financial Instruments

The Plan did not invest in any material derivative financial instruments during 2005 and 2004.

Note 7. Other Investment Information

Investments held which were greater than 5% of the Plan's net assets available for benefits as of Dec. 31 were as follows:

	2005	2004
Alliant Energy Corporation Common Stock* (non-participant directed: \$68,338,101 (2,437,165 shares) and \$63,508,962 (2,220,593 shares), respectively) (participant directed: \$39,089,784 (1,394,072 shares) and \$44,554,796 (1,557,860 shares), respectively)	\$107,427,885	\$108,063,758
American Funds Growth Fund of America, 2,660,335 and 2,572,065 shares, respectively	82,097,953	70,423,142
RiverSource Trust Equity Index Fund III*, f/k/a American Express Trust Equity Index Fund III, 2,209,051 and 2,340,750 shares, respectively	76,095,171	76,942,777
Dodge & Cox Stock Fund, 300,943 and 196,080 shares, respectively	41,295,339	25,533,595
American Funds EuroPacific Growth Fund, 741,088 and 526,727 shares, respectively	30,110,419	18,572,401
PIMCO Total Return Fund, 2,780,718 and 1,941,165 shares, respectively	29,197,536	20,712,227
Brown Capital Management Small Company Fund, 24,349 and 822,599 shares, respectively	760,668	24,513,456
RiverSource Trust Long-Term Horizon (65:35) Fund*, f/k/a American Express Trust Long-Term Horizon (65:35) Fund, 0 and 2,660,902 shares, respectively	--	33,931,822

* Represents party known to be a party-in-interest to the Plan.

During 2005, the Plan's investments, including gains and losses on investments acquired and disposed of, as well as held during the year, appreciated (depreciated) in value as follows:

American Funds Growth Fund of America	\$9,322,356
American Funds EuroPacific Growth Fund	3,749,899
RiverSource Trust Equity Index Fund III*, f/k/a American Express Trust Equity Index Fund III	3,644,444
Dodge & Cox Stock Fund	2,120,745
State Street Global Advisors S&P Midcap Index Fund	1,314,412
Brown Capital Management Small Company Fund	908,832
Dreyfus Premier Emerging Markets Fund	799,408
RiverSource Trust Income Fund I*, f/k/a American Express Trust Income Fund I	406,206
Evergreen Small Cap Value Fund	288,397
RiverSource Trust Bond Index Fund II*, f/k/a American Express Trust Bond Index Fund II	181,115
Self-Managed Brokerage Accounts	8,768
RiverSource Trust Short-Term Horizon (25:75) Fund*, f/k/a American Express Trust Short-Term Horizon (25:75) Fund	(3,470)
RiverSource Trust Long-Term Horizon (80:20) Fund*, f/k/a American Express Trust Long-Term Horizon (80:20) Fund	(32,912)
PIMCO Total Return Fund	(428,885)
RiverSource Trust Long-Term Horizon (65:35) Fund*, f/k/a American Express Trust Long-Term Horizon (65:35) Fund	(637,563)
Alliant Energy Corporation Common Stock*	(2,022,776)
Buffalo Small Cap Fund	(2,299,052)
Net appreciation in fair value of investments	<u>\$17,319,924</u>

* Represents party known to be a party-in-interest to the Plan.

Note 8. Non-Participant Directed Investments

Information about the net assets and the significant components of the changes in net assets relating to the non-participant directed investments was as follows:

	Dec. 31,	
	2005	2004
Net assets:		
Alliant Energy Corporation Common Stock*	\$68,338,101	\$63,508,962
RiverSource Trust Money Market Fund I*, f/k/a American Express Trust Money Market Fund I*	987,313	993,002
Contributions receivable	378,296	374,368
Investment income receivable	5,358	697
	<u>\$69,709,068</u>	<u>\$64,877,029</u>
Changes in net assets:	2005	
Employer contributions	\$7,682,202	
Investment activity:		
Investment income	2,653,378	
Net depreciation in fair value of investments	(1,331,372)	
Transfers to participant directed investments	(1,048,064)	
Distributions to participants	(3,124,105)	
	<u>\$4,832,039</u>	

* Represents party known to be a party-in-interest to the Plan.

Note 9. Related Party Transactions

Certain Plan investments are shares of mutual funds and common trust funds managed by an affiliate of the Trustee and shares of common stock of the Company. As of Dec. 31, 2005 and 2004, the Plan held 3,831,237 and 3,778,453 shares of Alliant Energy Corporation common stock with a cost basis of \$94,376,693 and \$92,640,650, respectively. In 2005 and 2004, the Plan recorded dividend income of \$3,980,853 and \$3,705,802, respectively, from investments in common stock of the Company. These transactions qualify as party-in-interest.

Note 10. Reconciliation to Form 5500

Distributions payable to participants are not included within net assets available for benefits in the accompanying financial statements, however, they are recorded as liabilities in the Plan's Form 5500. The following table reconciles net assets available for benefits per the financial statements to the Plan's Form 5500 as filed by the Company:

	2005	2004
Net assets available for benefits per financial statements	<u>\$499,241,183</u>	<u>\$463,276,817</u>
Adjustments:		
Benefits requested not yet paid	<u>(59,982)</u>	<u>(25,656)</u>
Amounts reported per Form 5500	<u>\$499,181,201</u>	<u>\$463,251,161</u>

The following table reconciles distributions to participants per the financial statements to the Form 5500 as filed by the Company for 2005:

	<u>Distributions to Participants</u>
Amounts reported per financial statements	<u>(\$32,264,424)</u>
Adjustments:	
Changes in benefits requested not yet paid	<u>(34,326)</u>
Amounts reported per Form 5500	<u>(\$32,298,750)</u>

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FORM 5500, SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

AS OF DECEMBER 31, 2005

Identity of issue, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, collateral, par or maturity value	Cost	Current Value
Registered Investment Companies	Evergreen Small Cap Value Fund, 397,516 shares	\$9,134,595	\$9,607,957
	American Funds Growth Fund of America, 2,660,335 shares	55,490,909	82,097,953
	PIMCO Total Return Fund, 2,780,718 shares	29,813,794	29,197,536
	Dodge & Cox Stock Fund, 300,943 shares	35,313,353	41,295,339
	Brown Capital Management Small Company Fund, 24,349 shares	663,091	760,668
	Dreyfus Premier Emerging Markets Fund, 604,841 shares	12,104,979	13,076,672
	American Funds EuroPacific Growth Fund, 741,088 shares	24,421,136	30,110,419
	Buffalo Small Cap Fund, 843,993 shares	23,739,855	21,471,186
Common/Collective Trusts	RiverSource Trust Money Market Fund I*, 6,864,577 shares	6,864,577	6,864,577
	RiverSource Trust Equity Index Fund III*, 2,209,051 shares	65,579,179	76,095,171
	RiverSource Trust Income Fund I*, 97,652 shares	6,520,606	6,720,671
	RiverSource Trust Investment Grade Bond Fund*, 562,422 shares	8,870,771	9,372,206
	RiverSource Trust Bond Index Fund II*, 544,433 shares	7,751,573	7,910,067
	State Street Global Advisors S&P Midcap Index Fund, 339,474 shares	9,906,546	11,541,098
Corporate Stocks: Common	Alliant Energy Corporation common stock*, 3,831,237 shares	94,376,693	107,427,885
Corporate Bonds	ARMT 2005 - 3 - 7A1, 5.09%, 4/25/35, par value \$135,355	136,267	134,292
	AMCAR 2003 - CF A3, 2.75%, 10/9/07, par value \$45,164	45,868	45,079
	AMCAR 2004 - AF A3, 2.18%, 7/7/08, par value \$127,270	127,262	126,355
	AMCAR 2005 - BM - A3, 4.05%, 1/6/10, par value \$300,000	299,978	296,672
	AMERICREDIT AUTOMOBILE REC., 4.87%, 12/6/10, par value \$200,000	199,974	200,031
	AMSI 2005 - R9 - AF3, 5.10%, 11/25/35, par value \$315,000	315,000	313,622
	BACM 2005 - 4 - A1, 4.43%, 7/10/45, par value \$136,248	136,251	134,651
	BACM 2005 - 6 - A2, 5.19%, 9/10/47, par value \$175,000	175,882	175,848
	BOAA 2003 - 1 - A1, 5.00%, 2/25/33, par value \$101,613	102,295	100,804
	BOAMS 2004 - E 2A6, 4.13%, 6/25/34, par value \$150,000	148,781	144,839
	BALTA 2005 - 5 - 1 A1, 4.80%, 6/25/35, par value \$169,247	169,247	169,459
	BSCMS 2005 - PWR9 - A1, 4.50%, 9/15/42, par value \$213,647	214,181	211,058
	BSCMS 2005 - T20 - A2, 5.13%, 10/12/42, par value \$250,000	251,366	251,268
	CDC COMMERCIAL MTGE, 5.68%, 11/15/30, par value \$175,000	178,192	179,593
	CDBCM 2005 - CD1 A1, 5.05%, 9/15/20, par value \$247,950	248,569	248,324
	CWALT 2005 - 6CB - 1A1, 7.50%, 4/25/35, par value \$60,810	64,867	63,139
	CWL 2005 - 10 - AF6, 4.91%, 12/25/35, par value \$20,000	19,999	19,388
	CWL 2005 - 17 - 1AF2, 5.36%, 12/25/35, par value \$125,000	124,998	125,072
	CWALT INC 2005 - 54CB, 5.50%, 11/25/35, par value \$67,972	69,077	68,612
	CWALT INC 2005 - 43, 5.50%, 11/25/35, par value \$72,681	73,726	73,227
	CARAT 2005 - 1 - A4, 4.05%, 7/15/09, par value \$250,000	249,987	245,548
	COAFT 2002 - B A4A, 3.32%, 4/15/09, par value \$73,263	74,706	72,765
	COAFT 2003 - A A3A, 1.83%, 10/15/07, par value \$14,257	14,207	14,229
	COAFT 2004 - A A3, 3.07%, 7/15/08, par value \$100,000	99,999	99,084
	CGCMT 2005 - C3 - A1, 4.39%, 5/15/43, par value \$282,394	283,095	278,275
	CMLTI 2005 - 5 - 1A2, 5.41%, 8/25/35, par value \$296,031	297,153	295,846
	CSFB 2004 - C1 A2, 3.52%, 1/15/37, par value \$100,000	100,500	96,402
	CSFB 2005 - C4 - A1, 4.77%, 8/15/38, par value \$214,519	215,056	213,399
	CSFB 2005 - 8 - 7A1, 7.00%, 9/25/35, par value \$159,081	164,600	163,518
	CSFB 2005 - 10 - 4A1, 6.50%, 11/25/35, par value \$98,241	100,260	99,899
	CSFB - 05 - 12 - SA1, 7.00%, 12/25/35, par value \$150,000	155,508	155,203
	FRNK 2004 - 2 - A4, 3.93%, 8/15/12, par value \$175,000	173,496	171,252
	GMACC 2005 - C1 - A1, 4.21%, 5/10/43, par value \$94,416	94,650	92,895
	GMACC 2002 - C2 - A1, 4.32%, 10/15/38, par value \$115,907	117,972	115,357

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FORM 5500, SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

AS OF DECEMBER 31, 2005 (Continued)

Identity of issue, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, collateral, par or maturity value	Cost	Current Value
Corporate Bonds (continued)	GMACM 2004 - HE2 - A4, 3.65%, 10/25/33, par value \$95,000	91,875	91,568
	GSR 2005 - AR2 - 2A1, 4.88%, 4/25/35, par value \$237,103	238,363	234,429
	GEPMC 2005 - C3 - A2, 4.85%, 7/10/45, par value \$350,000	351,746	347,461
	GCCFC 2005 - GG5 - A1, 4.79%, 4/10/37, par value \$247,333	247,332	246,861
	HVMLT 05 - 4 3A, 5.178%, 1/19/35, par value \$204,021	205,822	203,655
	HVMLT 2005 - 12 - 2A1A, 5.62%, 10/19/35, par value \$146,728	150,029	149,927
	HERTZ VEHICLE FINANCING, 4.93%, 2/15/10, par value \$150,000	149,991	149,813
	HART 2003 - A A3, 2.33%, 11/15/07, par value \$78,436	78,435	77,896
	INDX 2005 - AR25 - A1, 5.91%, 12/25/35, par value \$99,204	100,216	99,953
	JPMCC 2003 - C1 - A1, 4.27%, 1/12/37, par value \$197,987	195,953	192,958
	JP MORGAN CHASE COMM MTGE, 4.65%, 8/15/42, par value \$262,280	262,930	260,410
	JPMCC 2005 - LDP4 - A1, 4.61%, 10/15/42, par value \$269,958	270,820	267,616
	LBUBS 2004 - C4 A2, 4.57%, 5/15/34, par value \$150,000	153,697	148,310
	LBUBS 2004 - C6 A2, 4.19%, 8/15/29, par value \$200,000	200,996	195,406
	LBUBS 2003 - C7 A2, 4.06%, 9/15/27, par value \$185,000	186,356	179,709
	LBUBS 2003 - C8 A2, 4.21%, 11/15/27, par value \$150,000	150,744	146,994
	LBUBS 2005 - C1 - A1, 4.06%, 2/15/30, par value \$88,493	88,934	87,025
	LBUBS 2005 - C3 - A1, 4.39%, 7/15/30, par value \$201,086	202,091	199,005
	LBUBS 2005 - C5 - A2, 4.88%, 9/15/30, par value \$280,000	281,398	278,720
	LBART 2005 - B - A3, 4.41%, 5/15/10, par value \$200,000	200,000	198,187
	MARM 2004 - 3 3A2, 4.42%, 4/25/34, par value \$80,115	81,718	79,087
	MLMI 2005 - A1 - 2A1, 4.63%, 1/25/35, par value \$82,308	82,632	81,019
	MLMT 2005 - CIP1 - A1, 4.63%, 5/12/10, par value \$210,447	210,446	208,666
	MLMT 2005 - CK1 - A1, 5.03%, 11/12/37, par value \$175,000	175,434	175,901
	MSC 2003 - T11 A2, 4.34%, 6/13/41, par value \$250,000	243,213	244,232
	MSM 2004 - 2AR 3A, 5.03%, 2/25/34, par value \$142,431	145,858	140,859
	POPLR 2005 - 5 - AF3, 5.09%, 11/25/35, par value \$175,000	174,999	174,180
	RAMC 2005 - 3 - AF3, 4.77%, 10/25/35, par value \$100,000	99,998	98,938
	RAMC 2005 - 4 - A3, 5.56%, 2/25/36, par value \$70,000	70,000	70,000
	RALI SER 2003 - QS4 ABS, 5.50%, 9/25/33, par value \$68,751	70,679	68,785
	RASC 2004 - KS8 A13, 3.84%, 9/25/34, par value \$125,000	124,980	123,106
	RASC SER 2002 - KS1, 5.86%, 11/25/29, par value \$493	525	491
	SARM 2005 - 15 - 4A1, 5.53%, 7/25/35, par value \$208,161	210,072	207,771
	SASCO CMO 2004 - 12H, 5.53%, 4/25/34, par value \$65,661	67,141	66,002
	TRIAD AUTO RECEIVABLES 2005 - A, 4.05%, 3/12/10, par value \$250,000	249,997	247,113
	WESTO 2003 - 4 A3, 2.39%, 1/22/08, par value \$42,997	42,995	42,909
	WBCMT 2003 - C8 - A2, 3.89%, 11/15/35, par value \$150,000	150,745	145,406
	WBCMT 2005 - C19 - A1, 4.17%, 6/15/42, par value \$166,464	166,460	163,399
	WBCMT 2005 - C16 - A2, 4.38%, 10/15/41, par value \$100,000	100,498	97,601
	WBCMT 2005 - C21 - A1, 4.87%, 10/17/44, par value \$220,488	221,588	220,750
	WAMU 2005 - AR3 - A2, 4.65%, 3/25/35, par value \$130,469	130,576	128,214
	WFMB 2005 - 5 - 3PT3, 5.50%, 5/25/35, par value \$296,596	295,907	291,962
	ABSA 2005 - CF A4, 4.63%, 6/6/12, par value \$300,000	299,998	297,543
	CS FIRST BOSTON MTGE SECURITIES, 5.10%, 8/15/38, par value \$250,000	249,793	250,302
	VENDEE 2003 - 2 C, 5.00%, 7/15/20, par value \$76,992	79,615	76,881
	WFMB 5.00%, 10/25/35, par value \$337,553	327,252	326,055

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FORM 5500, SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

AS OF DECEMBER 31, 2005 (Continued)

Identity of issue, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, collateral, par or maturity value	Cost	Current Value
Government and Agency Obligations	FHLMC GOLD #E91326, 6.50%, 9/1/17, par value \$67,063	71,045	68,902
	FHLMC GOLD #E96180, 4.50%, 5/1/13, par value \$108,716	112,793	106,743
	FHLMC GOLD #E96579, 4.50%, 6/1/13, par value \$129,693	134,495	126,561
	FHLMC GOLD #E97247, 5.00%, 6/1/18, par value \$104,332	106,549	103,509
	FHLMC MTN, 3.525%, 12/20/07, par value \$370,000	370,000	361,651
	FHLMC GOLD #C66932, 6.00%, 5/1/32, par value \$56,626	56,750	57,290
	FHLMC GOLD #B10776, 5.00%, 11/1/13, par value \$97,493	100,082	97,133
	FHLB FLT RT NT, 4.73%, 9/6/07, par value \$330,000	330,000	330,000
	FED HOME LN BANK, 4.625%, 1/18/08, par value \$540,000	539,352	539,228
	FHLB, 3.00%, 5/15/06, par value \$215,000	215,841	213,745
	FED FARM CREDIT BANK, 2.38%, 10/2/06, par value \$150,000	150,473	147,472
	FEDERAL FARM CREDIT BANK, 2.13%, 7/17/06, par value \$250,000	249,523	246,835
	FHLMC REF NOTE, 5.13%, 10/15/08, par value \$125,000	128,745	126,289
	FHLMC, 4.63%, 12/19/08, par value \$575,000	573,195	574,005
	FHLMC (NON GOLD) ARM #782436, 4.99%, 10/1/34, par value \$97,708	99,906	96,654
	FNMA, 3.88%, 11/17/08, par value \$350,000	349,202	342,517
	FNMA BENCHMARK, 2.25%, 2/28/06, par value \$145,000	143,913	144,471
	FNMA, 3.00%, 3/2/07, par value \$220,000	219,593	215,614
	FNMA BENCHMARK, 4.50%, 10/15/08, par value \$85,000	84,867	84,529
	FNMA 15YR #252260, 6.00%, 3/1/10, par value \$368,089	366,306	376,126
	FNMA #254187, 5.00%, 12/1/08, par value \$203,392	202,280	202,513
	FNMA #254291, 7.00%, 4/1/17, par value \$87,937	93,790	91,370
	FNMA #254757, 5.00%, 3/31/13, par value \$101,758	106,337	100,711
	FNMA #254793, 5.00%, 7/1/33, par value \$138,290	136,259	134,476
	FNMA #357324, 5.00%, 1/1/33, par value \$334,721	322,274	325,656
	FNMA #535170, 5.50%, 9/1/14, par value \$103,627	106,930	104,472
	FNMA #545701, 7.00%, 7/1/12, par value \$88,936	95,050	90,841
	FNMA #545864, 5.50%, 8/1/17, par value \$171,333	173,863	172,745
	FNMA #555740, 4.50%, 9/1/18, par value \$215,590	211,211	210,360
	FNMA #640996, 7.50%, 5/1/32, par value \$61,005	65,275	63,903
	FNMA #646147, 7.00%, 6/1/32, par value \$177,881	186,386	186,853
	FNMA #648349, 6.00%, 6/1/17, par value \$69,433	72,623	71,150
	FNMA #677377, 5.50%, 1/1/33, par value \$358,656	355,069	356,130
	FNMA 2002 - W4 A3, 5.30%, 5/25/42, par value \$4,396	4,407	4,383
	FHLMC 2492 - B, 5.50%, 5/15/13, par value \$300,113	313,289	301,280
	FNMA #200394, 5.50%, 7/25/23, par value \$264,441	276,051	265,362
	FHLMC 2617 HD, 7.00%, 6/15/16, par value \$95,017	103,212	98,524
	FNMA 2003 - 133 GB, 8.00%, 12/25/26, par value \$51,426	56,351	54,620
	FHLMC 2641, 6.50%, 1/15/18, par value \$98,082	104,664	102,621
	FNMA 2004 - W3 A14, 3.50%, 5/25/34, par value \$32,312	32,413	32,186
	FNMA 2004 - W3 A15, 5.00%, 5/25/34, par value \$100,000	104,641	99,567
	FNMA 2004 - 60 PA, 5.50%, 4/25/34, par value \$135,188	139,655	135,694
	FHLMC 2657 NT, 5.00%, 1/15/16, par value \$136,430	141,993	136,548
	FHLMC 2672 NT, 5.00%, 2/15/16, par value \$185,045	192,714	185,052
	FHLMC 2662 DB, 5.00%, 2/15/16, par value \$139,589	145,216	139,550
	FHLMC 2750 DB, 4.50%, 5/15/15, par value \$150,000	153,586	148,824
	FHLMC 2843 - BA, 5.00%, 1/15/18, par value \$111,024	113,769	110,657
	FHLMC 2907 - AG, 4.50%, 3/15/19, par value \$105,334	105,301	103,378

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FORM 5500, SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)

AS OF DECEMBER 31, 2005 (Continued)

Identity of issue, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, collateral, par or maturity value	Cost	Current Value
Government and Agency Obligations (continued)	FNMA #685433, 6.50%, 3/1/33, par value \$108,581	114,663	111,626
	FNMA #705304, 4.91%, 6/1/33, par value \$151,594	153,809	149,318
	FNMA #725090, 4.81%, 11/1/33, par value \$127,717	127,038	123,406
	FNMA #725425, 5.50%, 4/1/34, par value \$311,561	306,827	309,276
	FNMA ARM #725737, 4.53%, 8/1/34, par value \$92,946	91,827	92,372
	FNMA #725815, 6.00%, 12/1/33, par value \$205,805	207,638	207,954
	FNMA #735057, 4.50%, 1/1/19, par value \$184,727	177,627	180,167
	FNMA #735935, 5.00%, 12/1/18, par value \$347,119	341,315	343,959
	FNMA #741897, 5.00%, 10/1/33, par value \$105,553	101,925	102,642
	FNMA #763798, 5.50%, 3/1/34, par value \$281,339	284,856	279,136
	FNMA #764082, 4.76%, 1/1/34, par value \$103,655	105,356	103,467
	FNMA ARM #799769, 5.06%, 11/1/34, par value \$119,384	121,772	118,632
	FNMA ARM #801344, 5.07%, 10/1/34, par value \$117,854	119,990	116,606
	FNMA #809534, 5.07%, 2/1/35, par value \$109,608	111,077	109,259
	FNMA ARM #813570, 4.40%, 10/1/34, par value \$82,456	82,624	81,444
	FNMA ARM #826908, 5.15%, 8/1/35, par value \$193,568	193,084	191,288
	FNMA #844705, 5.86%, 12/1/35, par value \$172,595	174,267	173,872
	U.S. TREASURY BOND, 6.25%, 8/15/23, par value \$150,000	182,446	179,121
	U.S. TREASURY BOND, 6.00%, 2/15/26, par value \$590,000	689,516	695,739
	U.S. TREASURY NOTE, 2.25%, 2/15/07, par value \$620,000	609,934	605,202
	U.S. T-NOTE, 4.13%, 5/15/15, par value \$270,000	259,242	264,083
	U.S. T-NOTE, 3.625%, 6/30/07, par value \$940,000	931,451	929,278
	U.S. TREASURY NOTE, 4.25%, 11/30/07, par value \$875,000	873,045	872,436
	FNMA, 4.25%, 9/15/07, par value \$315,000	313,095	312,842
	FNMA, 3.875%, 5/15/07, par value \$425,000	420,668	420,393
	FHLMC, 3.63%, 9/15/06, par value \$135,000	134,678	134,028
	FEDERAL HOME LOAN BANK, 4.63%, 11/21/08, par value \$990,000	987,921	987,596
	FNMA 2003 - W18 1A5, 4.61%, 8/25/43, par value \$100,000	101,172	99,477
	FNMA 2004 - W10 A23, 5.00%, 8/25/34, par value \$125,000	128,770	125,184
Investment Contracts	Monumental Life Insurance Company, 4.66%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	36,810
	Bank of America NA, 4.93%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	2,117
	Rabobank International, 4.52%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	148,187
	IXIS Capital Markets, 3.84%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	164,697
	JP Morgan Chase & Co., 4.23%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	38,531
	UBS Warburg, 3.98%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	74,053
	State Street Bank and Trust Company, 3.74%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	115,190
	AIG Financial Products Corp., 4.01%, 12/31/50		
Participant-Directed Brokerage Accounts	Synthetic Guaranteed Investment Contract Wrapper	-	21,772
	JP Morgan Chase II, 4.59%, 12/31/50		
	Synthetic Guaranteed Investment Contract Wrapper	-	45,413
	Hartford, 5.21%, 11/15/06	2,012,562	2,012,562
	Protective Life Insurance Company, 6.12%, 6/15/06	1,063,387	1,063,387
	Self-Managed Brokerage Accounts	155,068	170,867
Participant Promissory Notes*	Maximum allowable loan -- \$50,000		
	Various interest rates -- 5.0% to 10.5%		
	Primarily maturing within 5 years	-	8,837,772
		<u>\$423,871,360</u>	<u>\$496,067,341</u>

* Represents party known to be a party-in-interest to the Alliant Energy Corporation 401(k) Savings Plan.

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FORM 5500, SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (ACQUIRED AND DISPOSED OF WITHIN YEAR)

FOR THE YEAR ENDED DECEMBER 31, 2005

Identity of issue, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, collateral, par or maturity value	Cost of Acquisitions	Proceeds of Dispositions
Corporate Bonds	ARMT 2005 - 3 - 7A1, 5.09%, 4/25/35	\$14,744	\$14,645
	BACM 2005 - 4 - A1, 4.43%, 7/10/45	3,752	3,752
	BALTA 2005 - 5 - 1 A1, 4.80%, 6/25/35	55,753	55,753
	BSCMS 2005 - PWR9 - A1, 4.50%, 9/15/42	6,369	6,353
	CDBCM 2005 - CD1 A1, 5.05%, 9/15/20	2,055	2,050
	CWALT 2005 - 6CB - 1A1, 7.50%, 4/25/35	8,851	8,297
	CWALT INC 2005 - 54CB, 5.50%, 11/25/35	2,061	2,028
	CWALT INC 2005 - 43, 5.50%, 11/25/35	2,352	2,319
	CGMCT 2005 - C3 - A1, 4.40%, 5/15/43	17,650	17,606
	CMLTI 2005 - 5 - 1A2, 5.41%, 8/25/35	11,131	11,089
	CSFB 2005 - C4 - A1, 4.77%, 8/15/38	10,507	10,481
	CSFB 2005 - 8 - 7A1, 7.00%, 9/25/35	9,386	9,071
	CSFB 2005 - 10 - 4A1, 6.50%, 11/25/35	1,795	1,759
	DCAT 2005 - A A3, 3.49%, 12/8/08	99,990	99,754
	GMACC 2005 - C1 - A1, 4.21%, 5/10/43	5,598	5,584
	GSR 2005 - AR2 - 2A1, 4.86%, 4/25/35	35,539	35,351
	GPMF 2005 - AR3 - 1A1, 4.43%, 6/25/45	100,000	99,958
	GCCFC 2005 - GG5 - A1, 4.79%, 4/10/37	2,667	2,667
	HVMLT 2005 - 3 - 2A1A, 4.61%, 6/19/35	125,000	124,943
	HVMLT 05 - 4 3A, 5.17%, 1/19/35	21,165	20,979
	HVMLT 2005 - 12 - 2A1A, 5.62%, 10/19/35	3,346	3,272
	HAROT 2005 - 1 - A3, 3.53%, 10/21/08	99,989	98,703
	INDX 2005 - AR25 - A1, 5.91%, 12/25/35	804	796
	JPMCC 2003 - C1 - A1, 4.28%, 1/12/37	4,289	4,333
	JP MORGAN CHASE COMM, 4.66%, 8/15/42	12,752	12,720
	JPMCC 2005 - LDP4 - A1, 4.61%, 10/15/42	10,074	10,042
	LBUBS 2005 - C1 - A1, 4.06%, 2/15/30	11,564	11,507
	LBUBS 2005 - C3 - A1, 4.39%, 7/15/30	19,009	18,914
	MLMI 2005 - A1 - 2A1, 4.59%, 1/25/35	17,762	17,692
	MLMT 2005 - CIP1 - A1, 4.63%, 5/12/10	9,553	9,553
	NAROT 2005 - A - A3, 3.54%, 10/15/08	99,998	98,625
	RASC 2004 - KS9 - AII2, 4.48%, 10/25/34	30,030	30,038
	SARM 2005 - 15 - 4A1, 5.53%, 7/25/35	12,168	12,058
	VWALT 2004 - A - A3, 2.84%, 7/20/07	99,035	99,035
	WAMU 2005 - AR2 - 2A2A, 4.75%, 1/25/45	100,000	100,013
	WBCMT 2005 - C19 - A1, 4.17%, 6/15/42	13,536	13,536
	WBCMT 2005 - C21 - A1, 4.87%, 10/17/44	4,535	4,512
	WAMU 2005 - AR3 - A2, 4.65%, 3/25/35	15,470	15,458
	WFMBS 2005 - 5 - 3PT3, 5.50%, 5/25/35	6,035	6,039
	WFMBS, 5.00%, 10/25/35	1,528	1,565

ALLIANT ENERGY CORPORATION

401(k) SAVINGS PLAN

FORM 5500, SCHEDULE H, PART IV

LINE 4j - SCHEDULE OF REPORTABLE TRANSACTIONS

FOR THE YEAR ENDED DECEMBER 31, 2005

<u>Identity of Party Involved and Description of Assets</u>	<u>Total Number of Purchases</u>	<u>Total Value of Purchases (1)</u>	<u>Total Number of Sales</u>	<u>Net Selling Price (1)</u>	<u>Adjusted Cost of Assets Sold</u>	<u>Net Gain (Loss)</u>
Single Transaction Exceeds 5% of Value:						
None.						
Series of Transactions With Same Broker Exceeds 5% of Value:						
None.						
Series of Transactions In Same Security Exceeds 5% of Value:						
RiverSource Trust Money Market Fund I*, f/k/a American Express Trust Money Market Fund I	461	\$62,154,696	498	\$58,838,114	\$58,838,114	\$ -
Single Transaction With One Broker Exceeds 5% of Value:						
None.						

(1) The purchase/selling price was equal to the fair value on the date of purchase/sale.

* Represents party known to be a party-in-interest to the Alliant Energy 401(k) Savings Plan.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Total Compensation Committee, which administers the Plan, has duly caused this Annual Report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 28th day of June 2006.

ALLIANT ENERGY CORPORATION 401(k) SAVINGS PLAN

/s/ Christopher J. Lindell
Christopher J. Lindell

The foregoing person is the Vice President - Shared Services of Alliant Energy Corporation and Alliant Energy Corporate Services, Inc., and the Chairperson of the Alliant Energy Corporation Total Compensation Committee.

EXHIBIT INDEX TO ANNUAL REPORT ON FORM 11-K

**ALLIANT ENERGY CORPORATION
401(k) SAVINGS PLAN**

FOR THE YEAR ENDED DECEMBER 31, 2005

Exhibit No.

23

Exhibit

Consent of Independent Registered Public Accounting Firm

Page Number in
Sequentially Numbered
Form 11-K

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Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-117654 of Alliant Energy Corporation on Form S-8 of our report dated June 28, 2006, appearing in this Annual Report on Form 11-K of the Alliant Energy Corporation 401(k) Savings Plan for the year ended December 31, 2005.

/s/ Deloitte & Touche LLP

Milwaukee, Wisconsin
June 28, 2006